INDEX TO AUTHORS

A

banese, Anthony A. Colorimetric estimation of phenylalanine in some biological products, 291

— and **Frankston, Jane E.** A difference in the metabolism of *l*- and *dl*-tryptophane in the human, 101

bby, Winifred. On the quantitative incidence of carbonic anhydrase in the central nervous system, 671

B

er, Erich, Rubin, Leon J., and **Fischer, Hermann O. L.** Naturally occurring glycerol ethers. II. Synthesis of selachyl alcohol, 447

ldwin, A. Richard, and **Longenecker, Herbert E.** Component fatty acids from the fat of cow colostrum, 407

llamy, W. D. See *Gunsalus and Bellamy*, 357, 557

—. See *Gunsalus, Bellamy, and Umbreit*, 685

rgeim, Olaf. See *Novak and Bergeim*, 283

rgmann, Max, and **Tietzman, Josephine E.** Transformations of an acyl diketopiperazine, 535

ssey, Otto A., and **Lowry, Oliver H.** Factors influencing the riboflavin content of the cornea, 635

—. See *Lowry and Bessey*, 71

veridge, J. M. R., and **Lucas, Colin C.** Amino acids of isinglass, 547

kley, Francis. Cleavage of cystathionine by an enzyme system from rat liver, 39

—, **Ward, S. M.,** and **Hoagland, Charles L.** Reversible inactivation of the adenosinetriphosphatase activity of myosin preparations with copper and cyanide, 681

ck, Archie. See *Greene and Black*, 1

nchard, M., Green, D. E., Nocito, V., and **Ratner, S.** *l*-Amino acid oxidase of animal tissue, 421

Blanchard, M. See *Ratner, Blanchard, Coburn, and Green*, 689

Bloch, Konrad. Some aspects of the metabolism of leucine and valine, 255

— and **Rittenberg, D.** Sources of acetic acid in the animal body, 243

Bollenback, G. Norris. See *Fox, Fling, and Bollenback*, 465

Bonner, David. See *Reid, Lepkovsky, Bonner, and Tatum*, 299

Boxer, George E., and **Stetten, DeWitt, Jr.** Studies in carbohydrate metabolism. II. The glycogenic response to glucose and lactate in the previously fasted rat, 237

—. See *Stetten and Boxer*, 231

Briggs, G. M., Jr., Luckey, T. D., Elvehjem, C. A., and **Hart, E. B.** Studies on methods of increasing folic acid activity in liver fractions and in yeast, 687

Brown, W. L. The determination of phenylalanine in proteins, 277

Brues, Austin M., Tracy, Marjorie M., and **Cohn, Waldo E.** Nucleic acids of rat liver and hepatoma: their metabolic turnover in relation to growth, 619

Bucher, Gladys R., Flynn, Joseph C., and **Robinson, C. S.** The action of the human small intestine in altering the composition of physiological saline, 305

Burris, R. H., and **Haas, Erwin.** The red pigment of leguminous root nodules, 227

C

Camien, Merrill N. See *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591

Carruthers, Christopher, and **Suntzeff, V.** Chemical studies on the transformation of mouse epidermis by methylcholanthrene to squamous cell carcinoma, 459

Chaikoff, I. L. See *Entenman, Chaikoff, and Montgomery*, 573

Chaikoff, I. L. See *Entenman, Taurog, and Chaikoff*, 13
—. See *Taurog, Entenman, Fries, and Chaikoff*, 19
Chan, Dorothea V. See *Ashby*, 671
Chapman, C. W. See *Karel and Chapman*, 27
Chargaff, Erwin. The thromboplastic activity of tissue phosphatides, 387
— and **Moore, Dan H.** On bacterial glycogen: the isolation from avian tubercle bacilli of polyglucosan of very high particle weight, 493
Cheldelin, Vernon H. See *Sarett and Cheldelin*, 153
Chesler, Annette, and **Himwich, Harold E.** A comparison of the relationship of lactic acid and pyruvic acid in the normal and diabetic dog, 413
Christman, A. A., Foster, Phyllis W., and **Esterer, Marie B.** The allantoin content of blood, 161
Chu, Edith Ju-Hwa, and **Williams, Roger J.** A reported growth stimulant for *Lactobacillus casei*, 9
Coburn, Alvin F. See *Ratner, Blanchard, Coburn, and Green*, 689
Cohn, Mildred. See *du Vigneaud, Kilmer, Rachele, and Cohn*, 645
Cohn, Waldo E. See *Brues, Tracy, and Cohn*, 619
Craig, Lyman C. Identification of small amounts of organic compounds by distribution studies. II. Separation by counter-current distribution, 519
—. See *Jacobs and Craig*, 565

D

Daft, Floyd Shelton. See *Kornberg, Daft, and Sebrell*, 193
Day, Paul L. See *Mims, Totter, and Day*, 401
Dorfman, Ralph I. See *Horwitt, Dorfman, Shipley, and Fish*, 213
Downs, Clarence E. See *Hunter and Downs*, 173
Dunn, Max S., Camien, Merrill N., Rockland, Louis B., Shankman, S., and **Goldberg, Samuel C.** Investigations of amino acids, peptides, and proteins. XVII. The determination of glutamic acid in protein hydrolysates by a microbiological method, 591
Dutcher, J. D., and **Wintersteiner, O.** The structure of aspergillic acid, 359

E

Eckstein, H. C. See *Horning and Eckstein*, 49
Elvehjem, C. A. See *Briggs, Luckey, Elvehjem, and Hart*, 687
—. See *Kitzes, Elvehjem, and Schuette*, 653
—. See *Schweigert, McIntire, Elvehjem, and Strong*, 183
Entenman, C., Chaikoff, I. L., and **Montgomery, M. Laurence.** The preparation of fractions from pancreas that prevent fatty livers in depancreatized dogs maintained with insulin, 573
—, **Taurog, Alvin,** and **Chaikoff, I. L.** The determination of choline in phospholipids, 13
—. See *Taurog, Entenman, Fries, and Chaikoff*, 19
Esterer, Marie B. See *Christman, Foster, and Esterer*, 161

F

Ferris, Shirley. See *Chesler and Himwich*, 413
Fischer, Hermann O. L. See *Baer, Rubin, and Fischer*, 447
Fish, William R. See *Horwitt, Dorfman, Shipley, and Fish*, 213
Fling, Marguerite. See *Fox, Fling, and Bollenback*, 465
Floyd, Norman F. See *Weinhouse, Medes, and Floyd*, 143
Flynn, Joseph C. See *Bucher, Flynn, and Robinson*, 305
Foster, Phyllis W. See *Christman, Foster, and Esterer*, 161
Fox, Sidney W., Fling, Marguerite, and **Bollenback, G. Norris.** Inhibition of bacterial growth by *d*-leucine, 465
Frankston, Jane E. See *Albanese and Frankston*, 101

Free, Alfred H. See *Leonards and Free*, 503
Fries, B. A. See *Taurog, Entenman, Fries, and Chaikoff*, 19

G

Goldberg, Samuel C. See *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Granick, S., and **Hahn, P. F.** Ferritin. VIII. Speed of uptake of iron by the liver and its conversion to ferritin iron, 661
Green, D. E. See *Blanchard, Green, Nocito, and Ratner*, 421
—. See *Ratner, Blanchard, Coburn, and Green*, 689
Green, Walter S. See *Osterberg and Green*, 513
Greene, R. D., and **Black, Archie.** The microbiological assay of tryptophane in proteins and foods, 1
Gunsalus, I. C., and **Bellamy, W. D.** A function of pyridoxal, 357
— and —. The function of pyridoxine and pyridoxine derivatives in the decarboxylation of tyrosine, 557
—, —, and **Umbreit, W. W.** A phosphorylated derivative of pyridoxal as the coenzyme of tyrosine decarboxylase, 685

H

Haas, Erwin. A colorimetric determination for studies involving coenzymes. Microdetermination of glucose-6-phosphate, 333
—. The effect of atabrine and quinine on isolated respiratory enzymes, 321
—. See *Burris and Haas*, 227
Hahn, P. F. See *Granick and Hahn*, 661
Hart, E. B. See *Briggs, Luckey, Elvehjem, and Hart*, 687
Heard, R. D. H., Hoffman, M. M., and **Mack, G. E.** Steroids. VI. The structure of pregnanediol glucuronide from human pregnancy urine, 607
Hess, W. C. See *Sullivan and Hess*, 441
Himwich, Harold E. See *Chesler and Himwich*, 413
Hoagland, Charles L. See *Binkley, Ward, and Hoagland*, 681
Hochberg, Melvin, Melnick, Daniel, and **Oser, Bernard L.** Chemical determination of pyridoxine in biological materials and pharmaceutical products. The multiple nature of vitamin B_6, 119
—, —, and —. Chemical determination of pyridoxine. Reactions in pure systems, 109
—, —, and —. On the stability of pyridoxine, 129
Hoffman, M. M. See *Heard, Hoffman, and Mack*, 607
Horning, Marjorie G., and **Eckstein, H. C.** The influence of supplementary casein, cystine, and methionine on liver lipid content of adult rats, 49
Horwitt, Benjamin N., Dorfman, Ralph I., Shipley, Reginald A., and **Fish, William R.** Metabolism of the steroid hormones. IV. Conversion of desoxycorticosterone to pregnanediol-3(α),-20(α), in man and in the chimpanzee, 213
Hsu, C. See *Yang and Hsu*, 137
Huddleson, I. Forest. See *Sanders, Huddleson, and Schaible*, 469
Huebner, Charles Ferdinand, Overman, Ralph S., and **Link, Karl Paul.** The synthesis of pregnanediol 3-β-*d*-glucuronide, 615
Huff, Jesse W., and **Perlzweig, William A.** A product of oxidative metabolism of pyridoxine, 2-methyl-3-hydroxy-4-carboxy-5-hydroxymethylpyridine (4-pyridoxic acid). I. Isolation from urine, structure, and synthesis, 345
Hull, Tatiana Z. See *Lowry and Bessey*, 71
Hunter, Andrew, and **Downs, Clarence E.** The measurement of arginase activity, 173
Hussein, A. Aziz. Respiration in the orange. A study of systems responsible for oxygen uptake, 201

J

Jacobs, Walter A., and **Craig, Lyman C.** The veratrine alkaloids. XXII. On pseudojervine and veratrosine, a companion glycoside in *Veratrum viride*, 565

K

Karel, Leonard, and Chapman, C. W. The effect of vitamin C on the determination of sulfanilamide, 27

Keevil, Norman B. See *Ziegler and Keevil*, 605

Kilmer, Glen W. See *du Vigneaud, Kilmer, Rachele, and Cohn*, 645

Kitzes, George, Elvehjem, C. A., and **Schuette, H. A.** The determination of blood plasma iron, 653

Kochakian, Charles D. The effect of castration and various steroids on the arginase activity of the tissues of the mouse, 579

Kornberg, Arthur, Daft, Floyd Shelton, and **Sebrell, W. H.** Mechanism of production of vitamin K deficiency in rats by sulfonamides, 193

L

Lan, Tien Ho, and **Sealock, Robert Ridgely.** The metabolism *in vitro* of tyrosine by liver and kidney tissues of normal and vitamin C-deficient guinea pigs, 483

Leonards, Jack R., and **Free, Alfred H.** The citrate content of the skeleton as influenced by prolonged feeding of acid-producing and base-producing salt, 503

Lepkovsky, Samuel. See *Reid, Lepkovsky, Bonner, and Tatum*, 299

Li, Choh Hao. Studies on pituitary lactogenic hormone. X. The effect of a detergent, 45

Link, Karl Paul. See *Huebner, Overman, and Link*, 615

Lipmann, Fritz. Enzymatic synthesis of acetyl phosphate, 55

Longenecker, Herbert E. See *Baldwin and Longenecker*, 407

Lopez, Jeanne. See *Bessey and Lowry*, 635

Lowry, Oliver H., and **Bessey, Otto A.** A method for the determination of five-tenths to two millimicrograms of riboflavin, 71

—. See *Bessey and Lowry*, 635

Lucas, Colin C. See *Beveridge and Lucas*, 547

Luckey, T. D. See *Briggs, Luckey, Elvehjem, and Hart*, 687

Luecke, R. W., and **Pearson, P. B.** The determination of free choline in animal tissues, 507

M

Mack, G. E. See *Heard, Hoffman, and Mack*, 607

McIntire, J. M. See *Schweigert, McIntire, Elvehjem, and Strong*, 183

Medes, Grace. See *Weinhouse, Medes, and Floyd*, 143

Melnick, Daniel. See *Hochberg, Melnick, and Oser*, 109, 119, 129

Mims, Virginia, Totter, John R., and **Day, Paul L.** A method for the determination of substances enzymatically convertible to the factor stimulating *Streptococcus lactis* R, 401

Montgomery, M. Laurence. See *Entenman, Chaikoff, and Montgomery*, 573

Moore, Dan H. See *Chargaff and Moore*, 493

Morehouse, Margaret Gulick. Studies on ketosis. XXIII. The metabolism of isotopic tributyrin and partially hydrogenated linseed oil, 33

N

Nocito, V. See *Blanchard, Green, Nocito, and Ratner*, 421

Novak, Leo J., and **Bergeim, Olaf.** Water-soluble vitamins in hair as influenced by diet, 283

O

Ochoa, Severo. α-Ketoglutaric dehydrogenase of animal tissues, 87

Oser, Bernard L. See *Hochberg, Melnick, and Oser*, 109, 119, 129

Osterberg, Arnold E., and **Green, Walter S.** Modified electrolytic Gutzeit

method for rapid microdetermination of arsenic, 513
Overman, Ralph S. See *Huebner, Overman, and Link*, 615

P

Page, Irvine H. See *Plentl and Page*, 363, 379
Pappenheimer, Alwin M., Jr., and Shaskan, Eleanor. Effect of iron on carbohydrate metabolism of *Clostridium welchii*, 265
Pearson, P. B. See *Luecke and Pearson*, 507
Pepkowitz, Leonard P. Some observations on the photochemical destruction of carotene, 219
Perlzweig, William A. See *Huff and Perlzweig*, 345
Plentl, Albert A., and Page, Irvine H. The action of crystalline pepsin on pepsitensin and angiotonin, 379
— and —. On the enzymatic specificity of renin. I. The proteinase components of renin preparations and their relation to renin activity, 363

R

Rachele, Julian R. See *du Vigneaud, Kilmer, Rachele, and Cohn*, 645
Ratner, S., Blanchard, M., Coburn, Alvin F., and Green, D. E. Isolation of a peptide of *p*-aminobenzoic acid from yeast, 689
—. See *Blanchard, Green, Nocito, and Ratner*, 421
Reid, Della F., Lepkovsky, Samuel, Bonner, David, and Tatum, E. L. The intermediary metabolism of tryptophane in pyridoxine-deficient rats, 299
Rittenberg, D. See *Bloch and Rittenberg*, 243
Robinson, C. S. See *Bucher, Flynn, and Robinson*, 305
Rockland, Louis B. See *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Rubin, Leon J. See *Baer, Rubin, and Fischer*, 447

S

Sabine, Jean C. See *Wright and Sabine*, 315
Sanders, Evelyn, Huddleson, I. Forest, and Schaible, P. J. An electrophoretic study of serum and plasma from normal and leucosis-affected chickens, 469
Sarett, Herbert P., and Cheldelin, Vernon H. The use of *Lactobacillus fermentum* 36 for thiamine assay, 153
Schaible, P. J. See *Sanders, Huddleson, and Schaible*, 469
Schmidt, Carl L. A. See *Walker and Schmidt*, 683
Schuette, H. A. See *Kitzes, Elvehjem, and Schuette*, 653
Schweigert, B. S., McIntire, J. M., Elvehjem, C. A., and Strong, F. M. The direct determination of valine and leucine in fresh animal tissues, 183
Scrimshaw, Nevin S., and Stewart, Wellington B. Use of the macro fermentation method for thiamine assay, 79
Sealock, Robert Ridgely. See *Lan and Sealock*, 483
Sebrell, W. H. See *Kornberg, Daft, and Sebrell*, 193
Shankman, S. See *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Shaskan, Eleanor. See *Pappenheimer and Shaskan*, 265
Sherwood, Marion B., and Singer, Eileen D. Folic acid in cotton, 361
Shipley, Reginald A. See *Horwitt, Dorfman, Shipley, and Fish*, 213
Singer, Eileen D. See *Sherwood and Singer*, 361
Stetten, DeWitt, Jr., and Boxer, George E. Studies in carbohydrate metabolism. I. The rate of turnover of liver and carcass glycogen, studied with the aid of deuterium, 231
—. See *Boxer and Stetten*, 237
Stewart, Wellington B. See *Scrimshaw and Stewart*, 79
Strong, F. M. See *Schweigert, McIntire, Elvehjem, and Strong*, 183
Sullivan, M. X., and Hess, W. C. A

study of the various procedures for the estimation of tryptophane, 441
Suntzeff, V. See *Carruthers and Suntzeff*, 459

T

Tatum, E. L. See *Reid, Lepkovsky, Bonner, and Tatum*, 299
Taurog, Alvin, Entenman, C., Fries, B. A., and Chaikoff, I. L. An adsorption procedure for the separation of choline-containing from non-choline-containing phospholipids of liver, 19
—. See *Entenman, Taurog, and Chaikoff*, 13
Tietzman, Josephine E. See *Bergmann and Tietzman*, 535
Totter, John R. See *Mims, Totter, and Day*, 401
Tracy, Marjorie M. See *Brues, Tracy, and Cohn*, 619

U

Umbreit, W. W. See *Gunsalus, Bellamy, and Umbreit*, 685

V

du Vigneaud, Vincent, Kilmer, Glen W., Rachele, Julian R., and Cohn, Mildred. On the mechanism of the conversion *in vivo* of methionine to cystine, 645

W

Wagner, Dorothy L. See *Albanese*, 291
van Wagtendonk, Willem J. A dietary factor essential for guinea pigs. III. Changes in the distribution of acid-soluble phosphorus in the liver and kidneys during deficiency, 337
Walker, Albert C., and Schmidt, Carl L. A. Extension of the Thunberg technique for measurement of dehydrogenase activity, 683
Ward, S. M. See *Binkley, Ward, and Hoagland*, 681
Weinhouse, Sidney, Medes, Grace, and Floyd, Norman F. Fatty acid metabolism. The mechanism of ketone body synthesis from fatty acids, with isotopic carbon as tracer, 143
Williams, Roger J. See *Chu and Williams*, 9
Wintersteiner, O. See *Dutcher and Wintersteiner*, 359
Wright, C. I., and Sabine, Jean C. The effect of atabrine on the oxygen consumption of tissues, 315

Y

Yang, S. C., and Hsu, C. Studies on the utilization of crude *Ricinus* lipase. V. Effect of some salts on the activity of *Ricinus* lipase, 137

Z

Ziegler, John A., and Keevil, Norman B. Photochemical destruction of riboflavin in milk and losses during processing, 605

INDEX TO SUBJECTS

A

Acetic acid: Body, source, *Bloch and Rittenberg*, 243
Acetyl phosphate: Enzyme synthesis, *Lipmann*, 55
Acid(s): -Producing salt, skeleton citrate, effect, *Leonards and Free*, 503
Adenosinetriphosphatase: Activity, myosin preparations, copper and cyanide, effect, *Binkley, Ward, and Hoagland*, 681
Albumin: Egg. *See* Egg albumin
Alcohol(s): *See also* Selachyl alcohol
Alkaloid(s): Veratrine, *Jacobs and Craig*, 565
Allantoin: Blood, *Christman, Foster, and Esterer*, 161
Amino acid(s): Isinglass, *Beveridge and Lucas*, 547
l-, oxidase, tissue, *Blanchard, Green, Nocito, and Ratner*, 421
Peptides and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Proteins and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Aminobenzoic acid: *p*-, peptide, yeast, isolation, *Ratner, Blanchard, Coburn, and Green*, 689
Angiotonin: Pepsin, crystalline, action, *Plentl and Page*, 379
Anhydrase: Carbonic, central nervous system, *Ashby*, 671
Arginase: Activity, determination, *Hunter and Downes*, 173
Tissue, castration effect, *Kochakian*, 579
—, steroids, effect, *Kochakian*, 579
Arsenic: Determination, micro-, Gutzeit method, modified, *Osterberg and Green*, 513
Aspergillic acid: Chemical constitution, *Dutcher and Wintersteiner*, 359
Atabrine: Oxygen consumption, tissues, effect, *Wright and Sabine*, 315
Respiratory enzymes, effect, *Haas*, 321

B

Bacillus: *See also Lactobacillus, Tubercle bacillus*
Bacteria: Glycogen, *Chargaff and Moore*, 493
Growth, *d*-leucine effect, *Fox, Fling, and Bollenback*, 465
See also Clostridium, Streptococcus
Base(s): -Producing salt, skeleton citrate, effect, *Leonards and Free*, 503
Benzoic acid: *p*-Amino-, peptide, yeast, isolation, *Ratner, Blanchard, Coburn, and Green*, 689
Blood: Allantoin, *Christman, Foster, and Esterer*, 161
Blood plasma: Iron, determination, *Kitzes, Elvehjem, and Schuette*, 653
Leucosis, electrophoretic study, *Sanders, Huddleson, and Schaible*, 469
Blood serum: Leucosis, electrophoretic study, *Sanders, Huddleson, and Schaible*, 469
Bone: *See also* Skeleton
Butyrin: Tri-, isotopic, metabolism, *Morehouse*, 33

C

Carbohydrate(s): Metabolism, *Stetten and Boxer*, 231
Boxer and Stetten, 237
—, *Clostridium welchii*, iron effect, *Pappenheimer and Shaskan*, 265
Carbon: Isotopic, ketone body synthesis from fatty acids, use in study, *Weinhouse, Medes, and Floyd*, 143
Carbonic anhydrase: Central nervous system, *Ashby*, 671
Carboxylase: De-, tyrosine, coenzyme, pyridoxal phosphorylated derivative, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Carcass: Glycogen, turnover, deuterium in study, *Stetten and Boxer*, 231
Carcinoma: Squamous cell, methylcholanthrene-induced, chemistry, *Carruthers and Suntzeff*, 459

Carotene: Destruction, photochemical, *Pepkowitz*, 219
Casein: Liver lipids, effect, *Horning and Eckstein*, 49
Castration: Tissue arginase, effect, *Kochakian*, 579
Central nervous system: Carbonic anhydrase, *Ashby*, 671
Cholanthrene: Methyl-, carcinoma, squamous cell, induced by, chemistry, *Carruthers and Suntzeff*, 459
Choline: Free, tissue, determination, *Luecke and Pearson*, 507
Liver phospholipids, separation, *Taurog, Entenman, Fries, and Chaikoff*, 19
Phospholipids, determination, *Entenman, Taurog, and Chaikoff*, 13
Citrate: Skeleton, acid- and base-producing salt, effect, *Leonards and Free*, 503
Clostridium welchii: Carbohydrate metabolism, iron effect, *Pappenheimer and Shaskan*, 265
Coenzyme(s): Determination, colorimetric, *Haas*, 333
Tyrosine decarboxylase, pyridoxal phosphorylated derivative, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Colostrum: Fat, fatty acids, *Baldwin and Longenecker*, 407
Copper: Adenosinetriphosphatase activity, myosin preparations and, effect, *Binkley, Ward, and Hoagland*, 681
Cornea: Riboflavin, factors influencing, *Bessey and Lowry*, 635
Cotton: Folic acid, *Sherwood and Singer*, 361
Cyanide: Adenosinetriphosphatase activity, myosin preparations and, effect, *Binkley, Ward, and Hoagland*, 681
Cystathionine: Cleavage, liver enzyme, *Binkley*, 39
Cystine: Liver lipids, effect, *Horning and Eckstein*, 49
Methionine conversion *in vivo*, mechanism, *du Vigneaud, Kilmer, Rachele, and Cohn*, 645

D

Decarboxylase: Tyrosine, coenzyme, pyridoxal phosphorylated derivative, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Dehydrogenase: Activity, determination, Thunberg technique, *Walker and Schmidt*, 683
α-Ketoglutaric, tissue, *Ochoa*, 87
Desoxycorticosterone: Pregnanediol-3(α), 20(α), conversion, *Horwitt, Dorfman, Shipley, and Fish*, 213
Deuterium: Carcass glycogen turnover, use in study, *Stetten and Boxer*, 231
Liver glycogen turnover, use in study, *Stetten and Boxer*, 231
Diabetes: Lactic acid and pyruvic acid relationship, *Chesler and Himwich*, 413
Diet: Essential factor, guinea pig, *van Wagtendonk*, 337
Hair vitamins, water-soluble, effect, *Novak and Bergeim*, 283
Diketopiperazine: Acyl, transformations, *Bergmann and Tietzman*, 535

E

Enzyme(s): Acetyl phosphate synthesis, *Lipmann*, 55
Co-, determination, colorimetric, *Haas*, 333
—, tyrosine decarboxylase, pyridoxal phosphorylated derivative, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Liver, cystathionine cleavage, *Binkley*, 39
Renin specificity, *Plentl and Page*, 363, 379
Respiratory, atabrine effect, *Haas*, 321
—, quinine effect, *Haas*, 321
Streptococcus lactis-stimulating factor, substances convertible to, determination, *Mims, Totter, and Day*, 401
See also Adenosinetriphosphatase, Anhydrase, Arginase, Decarboxylase, Dehydrogenase, Lipase, Oxidase, Pepsin, Proteinase

Epidermis: Carcinoma, squamous cell, methylcholanthrene-induced, chemistry, *Carruthers and Suntzeff*, 459
Ether(s): Glycerol, naturally occurring, *Baer, Rubin, and Fischer*, 447

F

Fasting: Glycogen formation, glucose and lactate effect, *Boxer and Stetten*, 237
Fat(s): Colostrum, fatty acids, *Baldwin and Longenecker*, 407
Fatty acid(s): Colostrum, *Baldwin and Longenecker*, 407
Ketone body synthesis, isotopic carbon as tracer, *Weinhouse, Medes, and Floyd*, 143
Metabolism, *Weinhouse, Medes, and Floyd*, 143
Ferritin: *Granick and Hahn*, 661
Iron, conversion, iron uptake, liver, relation, *Granick and Hahn*, 661
Folic acid: Cotton, *Sherwood and Singer*, 361
Liver fractions, activity, *Briggs, Luckey, Elvehjem, and Hart*, 687
Yeast, activity, *Briggs, Luckey, Elvehjem, and Hart*, 687
Food(s): Tryptophane determination, microbiological, *Greene and Black*, 1

G

Glucosan: Poly-, tubercle bacillus, avian, isolation, *Chargaff and Moore*, 493
Glucose: Glycogen formation, fasting, effect, *Boxer and Stetten*, 237
Glucose-6-phosphate: Determination, micro-, *Haas*, 333
Glutamic acid: Protein hydrolysates, determination, microbiological, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Glutaric: α-Keto-, dehydrogenase, tissue, *Ochoa*, 87
Glycerol ether(s): Naturally occurring, *Baer, Rubin, and Fischer*, 447
Glycogen: Bacteria, *Chargaff and Moore*, 493
Glycogen—*Continued:*
Carcass, turnover, deuterium in study, *Stetten and Boxer*, 231
Formation, fasting, glucose and lactate effect, *Boxer and Stetten*, 237
Liver, turnover, deuterium in study, *Stetten and Boxer*, 231
Growth: Bacteria, *d*-leucine effect, *Fox, Fling, and Bollenback*, 465
Lactobacillus casei, *Chu and Williams*, 9
Liver and hepatoma nucleic acids, relation, *Brues, Tracy, and Cohn*, 619
Guinea pig: Diet essential, *van Wagtendonk*, 337

H

Hair: Vitamins, water-soluble, diet effect, *Novak and Bergeim*, 283
Hepatoma: Nucleic acids, metabolism, growth relation, *Brues, Tracy, and Cohn*, 619
Hormone(s): Steroid, metabolism, *Horwitt, Dorfman, Shipley, and Fish*, 213

I

Insulin: Liver, fatty, pancreatectomy and, pancreas fractions, effect, *Entenman, Chaikoff, and Montgomery*, 573
Intestine: Small, physiological saline, effect, *Bucher, Flynn, and Robinson*, 305
Iron: Blood plasma, determination, *Kitzes, Elvehjem, and Schuette*, 653
Clostridium welchii carbohydrate metabolism, *Pappenheimer and Shaskan*, 265
Ferritin, conversion, liver uptake, iron, relation, *Granick and Hahn*, 661
Uptake, liver, ferritin iron, conversion, *Granick and Hahn*, 661
Isinglass: Amino acids, *Beveridge and Lucas*, 547

J

Jervine: Pseudo-, *Veratrum viride*, *Jacobs and Craig*, 565

K

Ketoglutaric dehydrogenase: α-, tissue, *Ochoa*, 87
Ketone body: Synthesis, fatty acids, isotopic carbon as tracer, *Weinhouse, Medes, and Floyd*, 143
Ketosis: *Morehouse*, 33
Kidney: Phosphorus, acid-soluble, diet deficiency, effect, *van Wagtendonk*, 337
Tyrosine metabolism *in vitro*, vitamin C deficiency, *Lan and Sealock*, 483

L

Lactate: Glycogen formation, fasting, effect, *Boxer and Stetten*, 237
Lactic acid: Pyruvic acid relationship, diabetes, *Chesler and Himwich*, 413
Lactobacillus casei: Growth, *Chu and Williams*, 9
Lactobacillus fermentum: Thiamine determination, use, *Sarett and Cheldelin*, 153
Lactogenic hormone: Pituitary, *Li*, 45
—, detergent, effect, *Li*, 45
Legume(s): Root nodules, pigment, red, *Burris and Haas*, 227
Leucine: *d-*, bacterial growth, effect, *Fox, Fling, and Bollenback*, 465
Metabolism, *Bloch*, 255
Tissue, determination, *Schweigert, McIntire, Elvehjem, and Strong*, 183
Leucosis: Blood plasma and serum, electrophoretic study, *Sanders, Huddleson and Schaible*, 469
Linseed oil: Hydrogenated, partially, metabolism, *Morehouse*, 33
Lipase: *Ricinus*, activity, salts, effect, *Yang and Hsu*, 137
—, utilization, *Yang and Hsu*, 137
Lipid(s): Liver, casein effect, *Horning and Eckstein*, 49
—, cystine effect, *Horning and Eckstein*, 49
—, methionine effect, *Horning and Eckstein*, 49
Phospho-. *See* Phospholipid
Liver: Enzyme, cystathionine cleavage, *Binkley*, 39
Liver—*continued:*
Fatty, pancreatectomy and insulin, pancreas fractions, effect, *Entenman, Chaikoff, and Montgomery*, 573
Fractions, folic acid activity, *Briggs, Luckey, Elvehjem, and Hart*, 687
Glycogen, turnover, deuterium in study, *Stetten and Boxer*, 231
Iron uptake, ferritin iron, conversion, *Granick and Hahn*, 661
Lipids, casein effect, *Horning and Eckstein*, 49
—, cystine effect, *Horning and Eckstein*, 49
—, methionine effect, *Horning and Eckstein*, 49
Nucleic acids, metabolism, growth relation, *Brues, Tracy, and Cohn*, 619
Phospholipid choline, separation, *Taurog, Entenman, Fries, and Chaikoff*, 19
Phosphorus, acid-soluble, diet deficiency, effect, *van Wagtendonk*, 337
Tyrosine metabolism *in vitro*, vitamin C deficiency, *Lan and Sealock*, 483

M

Methionine: Cystine conversion, *in vivo* mechanism, *du Vigneaud, Kilmer, Rachele, and Cohn*, 645
Liver lipids, effect, *Horning and Eckstein*, 49
Methylcholanthrene: -Induced carcinoma, squamous cell, chemistry, *Carruthers and Suntzeff*, 459
Methyl - 3 - hydroxy - 4 - carboxy - 5 - hydroxymethylpyridine: 2-, *Huff and Perlzweig*, 345
—, chemical constitution, *Huff and Perlzweig*, 345
—, isolation, urine, *Huff and Perlzweig*, 345
—, synthesis, *Huff and Perlzweig*, 345
Milk: Riboflavin, light and processing, effect, *Ziegler and Keevil*, 605
Myosin: Adenosinetriphosphatase activity, copper and cyanide, effect, *Binkley, Ward, and Hoagland*, 681

N

Nucleic acid(s): Hepatoma, metabolism, growth relation, *Brues, Tracy, and Cohn*, 619
Liver, metabolism, growth relation, *Brues, Tracy, and Cohn*, 619

O

Oil: *See also* Linseed oil
Orange: Oxygen uptake systems, *Hussein*, 201
Organic compound(s): Identification, small amounts, distribution studies, *Craig*, 519
Separation, counter-current distribution, *Craig*, 519
Oxidase: *l*-Amino acid, tissue, *Blanchard, Green, Nocito, and Ratner*, 421
Oxygen: Consumption, tissues, atabrine effect, *Wright and Sabine*, 315
Uptake systems, orange, *Hussein*, 201

P

Pancreas: Fractions, livers, fatty, pancreatectomy and insulin, effect, *Entenman, Chaikoff, and Montgomery*, 573
Pancreatectomy: Liver, fatty, insulin and, pancreas fractions, effect, *Entenman, Chaikoff, and Montgomery*, 573
Pepsin: Crystalline, pepsitensin and angiotonin, action on, *Plentl and Page*, 379
Pepsitensin: Pepsin, crystalline, action, *Plentl and Page*, 379
Peptide(s): Amino acids and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
p-Aminobenzoic acid, yeast, isolation, *Ratner, Blanchard, Coburn, and Green*, 689
Proteins and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Phenylalanine: Biological products, determination, colorimetric, *Albanese*, 291
Proteins, determination, *Brown*, 277
Phosphatase: Adenosinetri-, activity, myosin preparations, copper and cyanide, effect, *Binkley, Ward, and Hoagland*, 681
Phosphatide(s): Tissue, thromboplastic activity, *Chargaff*, 387
Phospholipid(s): Choline determination, *Entenman, Taurog, and Chaikoff*, 13
Liver, choline, separation, *Taurog, Entenman, Fries, and Chaikoff*, 19
Phosphorus: Acid-soluble, kidney, diet deficiency, effect, *van Wagtendonk*, 337
—, liver, diet deficiency, effect, *van Wagtendonk*, 337
Pigment: Red, root nodules, legumes, *Burris and Haas*, 227
Piperazine: Diketo-, acyl, transformations, *Bergmann and Tietzman*, 535
Pituitary: Lactogenic hormone, *Li*, 45
— —, detergent, effect, *Li* 45
Polyglucosan: Tubercle bacillus, avian, isolation, *Chargaff and Moore*, 493
Pregnancy: Urine pregnanediol glucuronide, chemical constitution, *Heard, Hoffman, and Mack*, 607
Pregnanediol-3(α),20(α): Desoxycorticosterone conversion, *Horwitt, Dorfman, Shipley, and Fish*, 213
Pregnanediol glucuronide: Urine, pregnancy, chemical constitution, *Heard, Hoffman, and Mack*, 607
Pregnanediol 3-β-d-glucuronide: Synthesis, *Huebner, Overman, and Link*, 615
Protein(s): Amino acids and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Hydrolysates, glutamic acid determination, microbiological, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Peptides and, *Dunn, Camien, Rockland, Shankman, and Goldberg*, 591
Phenylalanine determination, *Brown*, 277
Tryptophane determination, microbiological, *Greene and Black*, 1

Proteinase: Renin preparations, renin activity, relation, *Plentl and Page*, 363
Pseudojervine: *Veratrum viride*, *Jacobs and Craig*, 565
Pyridine: 2-Methyl-3-hydroxy-4-carboxy-5-hydroxymethyl-, *Huff and Perlzweig*, 345
—, chemical constitution, *Huff and Perlzweig*, 345
—, isolation, urine, *Huff and Perlzweig*, 345
—, synthesis, *Huff and Perlzweig*, 345
Pyridoxal: Derivative, phosphorylated, tyrosine decarboxylase coenzyme, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Function, *Gunsalus and Bellamy*, 357
Pyridoxic acid: 4-, pyridoxine metabolism product, *Huff and Perlzweig*, 345
Pyridoxine: Deficiency, tryptophane metabolism, *Reid, Lepkovsky, Bonner, and Tatum*, 299
Derivatives, tyrosine decarboxylation, function, *Gunsalus and Bellamy*, 557
Determination, chemical, *Hochberg, Melnick, and Oser*, 109, 119
Metabolism product, *Huff and Perlzweig*, 345
Stability, *Hochberg, Melnick, and Oser*, 129
Tyrosine decarboxylation, function, *Gunsalus and Bellamy*, 557
Pyruvic acid: Lactic acid relationship, diabetes, *Chesler and Himwich*, 413

Q

Quinine: Respiratory enzymes, effect, *Haas*, 321

R

Renin: Enzyme specificity, *Plentl and Page*, 363, 379
Proteinase, renin activity, relation, *Plentl and Page*, 363
Respiratory enzyme(s): Atabrine effect, *Haas*, 321
Quinine effect, *Haas*, 321
Riboflavin: Cornea, factors influencing, *Bessey and Lowry*, 635
Determination, ultramicro-, *Lowry and Bessey*, 71
Milk, light and processing, effect, *Ziegler and Keevil*, 605
Ricinus: Lipase, activity, salts, effect, *Yang and Hsu*, 137
—, utilization, *Yang and Hsu*, 137
Root nodule(s): Legumes, pigment, red, *Burris and Haas*, 227

S

Saline solution: Physiological, small intestine, effect, *Bucher, Flynn, and Robinson*, 305
Selachyl alcohol: Synthesis, *Baer, Rubin, and Fischer*, 447
Skeleton: Citrate, acid- and base-producing salt, effect, *Leonards and Free*, 503
Skin: *See also* Epidermis
Steroid(s): *Heard, Hoffman, and Mack*, 607
Hormones, metabolism, *Horwitt, Dorfman, Shipley, and Fish*, 213
Tissue arginase, effect, *Kochakian*, 579
Streptococcus lactis: -Stimulating factor, substances enzymatically convertible, determination, *Mims, Totter, and Day*, 401
Sulfanilamide: Determination, vitamin C effect, *Karel and Chapman*, 27
Sulfonamide(s): Vitamin K deficiency, relation, *Kornberg, Daft, and Sebrell*, 193

T

Thiamine: Determination, fermentation method, *Scrimshaw and Stewart*, 79
—, *Lactobacillus fermentum* use, *Sarett and Cheldelin*, 153
Thionine: Cysta-, cleavage, liver enzyme, *Binkley*, 39
Thromboplastic activity: Tissue phosphatides, *Chargaff*, 387
Tributyrin: Isotopic, metabolism, *Morehouse*, 33
Tryptophane: Determination, *Sullivan and Hess*, 441

Tryptophane—*continued:*
Foods, determination, microbiological, *Greene and Black*, 1
l- and *dl-*, metabolism difference, *Albanese and Frankston*, 101
Metabolism, pyridoxine deficiency, *Reid, Lepkovsky, Bonner, and Tatum*, 299
Proteins, determination, microbiological, *Greene and Black*, 1
Tubercle bacillus: Avian, polyglucosan isolation, *Chargaff and Moore*, 493
Tyrosine: Decarboxylase, coenzyme, pyridoxal phosphorylated derivative, relation, *Gunsalus, Bellamy, and Umbreit*, 685
Decarboxylation, pyridoxine and derivatives, function, *Gunsalus and Bellamy*, 557
Metabolism *in vitro*, liver and kidney, vitamin C deficiency, *Lan and Sealock*, 483

U

Urine: 2-Methyl-3-hydroxy-4-carboxy-5-hydroxymethylpyridine, isolation, *Huff and Perlzweig*, 345
Pregnancy, pregnanediol glucuronide, chemical constitution, *Heard, Hoffman, and Mack*, 607

V

Valine: Metabolism, *Bloch*, 255
Tissue, determination, *Schweigert, McIntire, Elvehjem, and Strong*, 183
Veratrine: Alkaloids, *Jacobs and Craig*, 565
Veratrosine: *Veratrum viride*, *Jacobs and Craig*, 565
Veratrum viride: Pseudojervine and veratrosine, *Jacobs and Craig*, 565
Vitamin(s): B_6, nature, *Hochberg, Melnick, and Oser*, 119
C deficiency, tyrosine metabolism *in vitro*, liver and kidney, *Lan and Sealock*, 483
—, sulfanilamide determination, effect, *Karel and Chapman*, 27
K, deficiency, sulfonamide-produced, *Kornberg, Daft, and Sebrell*, 193
Water-soluble, hair, diet effect, *Novak and Bergeim*, 283

Y

Yeast: *p*-Aminobenzoic acid peptide, isolation, *Ratner, Blanchard, Coburn, and Green.* 689
Folic acid activity, *Briggs, Luckey, Elvehjem, and Hart*, 687